

Computer music playback quality: digital audio reproduction versus synthesized sound

ABSTRACT

The music we hear played back via computer controlled media is generated by one of two technologies: digital audio, which is a waveform reproduction of the original sound source recorded and played back through digital means, and musical instrument digital interface or MIDI, which communicates a set of performance instructions to a synthesiser chip which generates playback in real-time. The ability to distinguish synthesized sound from digital reproductions of original sound sources is tested through a set of listening tests conducted on music technology undergraduate students. Research findings indicate that certain synthesizers and soundcards are able to produce high quality synthesized sound that is perceived to be as good as the original instrument timbres.

Keyword: Computer music; MIDI; Synthesisers; Digital music; Soundcards; Music synthesis; Music playback quality; Digital audio